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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/820,520	03/28/2001	Masato Yonezawa	07977/270001/US4820	5433

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EXAMINER

ALEJANDRO MULERO, LUZ L

ART UNIT	PAPER NUMBER
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1792

NOTIFICATION DATE	DELIVERY MODE
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09/19/2008

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

PATDOCTC@fr.com

Office Action Summary	Application No. 09/820,520	Applicant(s) YONEZAWA ET AL.	
	Examiner Luz L. Alejandro	Art Unit 1792	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 July 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4,6-14 and 20-36 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4,6-14 and 20-36 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>0308,0708</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 07/07/08 has been entered.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1-4, 6-14 and 20-36 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The specification, as originally filed, fails to describe a plasma CVD apparatus having an introducing port for gas, a substrate support and a first electrode arranged relative to one another so that a flow of gas introduced by the introducing port into the chamber **is rectified in a direction toward the apertures so that the flow of gas does not gradually contain a portion**

Art Unit: 1792

that: (1) flows toward the substrate and (2) includes particles with diameters greater than a thickness of a film to be formed on the substrate, as required by the independent claims.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-4, 6-14 and 20-36 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In independent claim 1, the phrase “gradually contain a portion” in the limitation “the introducing port for gas, the substrate support and the first electrode are arranged relative to one another so that a flow of gas is introduced by the introducing port into the chamber in a direction parallel with the first direction and is rectified in a direction away from a film formation surface of the substrate and toward the apertures so that the flow of gas does not gradually contain a portion that: (1) flows toward the substrate and (2) includes particles with diameters greater than a thickness of a film to be formed on the substrate”, is unclear.

In independent claims 10 and 30, the phrase “gradually contain a portion” in the limitation “the gas inlet port, the substrate holder and the second electrode are arranged relative to one another so that a flow of gas is introduced by the gas inlet port in a direction parallel to the first direction and is rectified in a direction away from a film formation surface of the substrate and toward the apertures so that the flow of gas does

Art Unit: 1792

not gradually contain a portion that: (1) flows toward the substrate and (2) includes particles with diameters greater than a thickness of a film to be formed on the substrate”, is unclear.

In independent claim 22, the phrase “gradually contain a portion” in the limitation “the introducing port, the supporting means and the first electrode are arranged relative to one another so that a flow of gas is introduced by the introducing port into the chamber in a direction parallel with the first direction and is rectified in a direction away from a film formation surface of the substrate and toward the apertures so that the flow of gas does not gradually contain a portion that: (1) flows toward the substrate and (2) includes particles with diameters greater than a thickness of a film to be formed on the substrate” is unclear.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-4, 6-14, 26-27, and 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Admitted prior art in view of Izu et al., U.S. Patent 4,410,558 or Sando et al., U.S. Patent 4,479,369.

Admitted prior art shows the invention substantially as claimed including a film

Art Unit: 1792

formation apparatus comprising: a vacuum chamber; an exhaust means for exhausting the gas from the vacuum chamber to the outside; a first plate electrode 303 for supplying an electric energy inside the chamber; a second grounded electrode 302 opposing the first electrode for supplying the electric energy inside the vacuum chamber and wherein the first electrode is located below said second electrode; a substrate support configured to support a substrate 301 and positioned opposing the surface of the first electrode wherein the substrate support is configured to enable movement of the substrate in a first direction through the chamber, wherein the substrate is supported between the first and second electrodes, and wherein the substrate is located horizontally and has a substrate surface that is downwardly opposed to the first electrode; an introducing port for gas located between the plate (first) electrode 303 and the substrate, wherein the introducing port, the substrate support, and the first electrode are arranged relative to one another so that the gas is introduced into the chamber in a direction parallel with the first direction; and a transporting means for transporting a flexible substrate including at least one selected from a winding and an unwinding roll (see applicant's description of the roll to roll method at paragraph bridging pages 1 and 2). For a complete description of the claims, see Fig. 3 and its description. Note that with respect to independent claim 10 and the claims that depend from it, the first and second electrodes described above represent the second and first electrodes of these claims.

Admitted prior art does not expressly disclose the claimed exhaust structure, wherein the gas is exhausted from a plurality of apertures or openings in the first electrode, the

Art Unit: 1792

openings being circular and located at constant intervals. Izu et al. discloses an apparatus comprising a gas inlet port 52 located in a position between a moving substrate 10 and a mesh-like electrode 58, the electrode 58 comprising a plurality of openings/apertures through where the gas is exhausted (see, for example, fig. 3 and its description). Additionally, Sando et al. discloses an apparatus comprising a mesh-like exhaust port 58 comprising a plurality of openings/apertures through where the gas is exhausted (see, for example, figs. 1-2 and their descriptions). In view of these disclosures, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the apparatus of Admitted prior art so as to comprise the exhaust structure suggested by Izu et al. or Sando et al., because this allows for: a) uniform distribution/exhaustion of the gas, and b) maintain a uniform flow of the gas.

With respect to the shape and location of the openings for exhausting the gas, it should be noted that Fig. 3 of the Izu et al. reference shows the openings being circular and located at constant intervals. Furthermore, the particular shape of the openings is a matter of choice which a person of ordinary skill in the art would have found obvious absent persuasive evidence that the particular configuration of the claimed apertures/openings are significant.

Concerning the direction of flow of the gas, note that the apparatus of the admitted prior art modified by Izu et al. or Sando et al. will allow the gas to be rectified in a direction away from the film formation surface of the substrate and toward the apertures so that the flow of gas does not gradually contain a portion that flows

Art Unit: 1792

toward the substrate and includes particles with diameters greater than a thickness of a film to be formed on the substrate.

Regarding claim 35, note that the apparatus of the admitted prior art modified by Izu et al. or Sando et al. discloses the claimed third electrode structure.

Claims 20-24, 28-34, and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Admitted prior art in view of Izu et al., U.S. Patent 4,410,558 or Sando et al., U.S. Patent 4,479,369, as applied to claims 1-4, 6-14, 26-27, and 35 above, and further in view of Komino et al., U.S. Patent 6,156,151 or Yamazaki, U.S. Patent 4,808,553.

Note that with respect to independent 30 and the claims that depend from it, the first and second electrodes described above represent the second and first electrodes of these claims.

Admitted prior art, Izu et al., and Sando et al. are applied as above but do not expressly disclose that the apparatus further comprises an abnormal discharge preventing plate between the exhaust means and the electrode and having plurality of openings. Komino et al. discloses a plasma apparatus comprising an exhaust means and a plate 118 having a plurality of openings 118a for preventing discharge (see, figs. 1, 4, 7, 9A, 9B, 10 or 11, and their descriptions). Additionally, Yamazaki discloses a plasma apparatus comprising an exhaust means 14 and a plate 20' comprising a plurality of openings which will prevent abnormal discharge from entering the exhaust means. Therefore, it would have been obvious to one having ordinary skill in the art at

Art Unit: 1792

the time the invention was made to modify the apparatus of Admitted prior art modified by Izu et al. and Sando et al., as to further comprise a plate as claimed because abnormal discharge can be prevented in the exhaust.

Regarding claim 36, note that the apparatus of the admitted prior art modified by Izu et al. or Sando et al. and Komino et al. or Yamazaki discloses the claimed third electrode structure.

Response to Arguments

Applicant's arguments filed 07/07/08 have been fully considered but they are not persuasive.

In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Luz L. Alejandro whose telephone number is 571-272-1430. The examiner can normally be reached on Monday to Thursday from 7:30 to 6:00.

Art Unit: 1792

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Parviz Hassanzadeh can be reached on 571-272-1435. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Luz L. Alejandro/
Primary Examiner, Art Unit 1792

September 11, 2008